

## Delivering

- > Agility
- > Innovation
- > Performance



## Introducing Xtera®

Xtera® is an innovative provider of subsea telecoms solutions. We supply both unrepeated and repeated systems, using our high performance optical amplifiers to deliver traffic directly inland to cities. We create novel solutions that are tailored to each individual customer, whether providing a full turnkey system, an open architecture design, or supply of a particular product or service. We aim to challenge the norm and provide more reliable and higher quality products over new and existing routes.

We are a flexible supplier who works with a variety of partners to create the best solution for each project with a proven track record of delivery. Contact Xtera today at [info@xtera.com](mailto:info@xtera.com) to see how we can help you to build exceptional systems, or visit [www.xtera.com](http://www.xtera.com)



## Turnkey Services

A full range of services are included in Xtera's turnkey portfolio, including:

- System Design
- Project Planning & Feasibility Studies
- On-shore & Off-shore Security during Installation
- Desktop Study
- Route Survey & Cable Engineering
- In-House Permitting Service
- Route Clearance
- Shore End & Installation Operations
- Post Lay Inspection & Burial
- Landing Route & Station Development
- Testing and Commissioning
- Training
- Maintenance & Operational Support



Xtera's core team is made up of industry experts each with 20 to 30 years' experience in the design and installation of submarine cable systems. The systems design team includes specialists in the simulation of undersea optical systems who have developed highly specialized modelling tools and a dedicated optical test-bed, allowing us to optimize transmission solutions to individual networks. Xtera has deployed its optical networking solutions in over sixty countries across five continents.

## Xtera's Products

### Repeater

Xtera's advanced submarine repeater unit has been designed with reliability and performance foremost, allowing us to deliver a highly optimised and robust transmission system. Our hybrid repeater uses Raman technology to reduce line noise, which allows us to offer long-span, high-bandwidth systems. The repeater features a light-weight and compact titanium design that can be plough-buried. Simple and rapid monitoring of repeater optical levels, pump health, internal temperature, etc., is provided via the Line Monitoring Equipment.

Xtera's repeaters also have an in-built accelerometer that allows us to monitor repeater handling during marine operations, and the system owner to track any unexpected movement after installation.

Key repeater features are:

- Optical bandwidth up to 70nm
- Depth capability qualified to 8,000m
- 2,4,6 fibre pair variants
- High reliability design, with redundancy in pumps and controllers
- Per amplifier tilt control, removing the need for separate tilt equalisers
- Active supervisory & C-OTDR compatibility



Xtera's innovative repeater





Branching Unit Sea Trial

### Branching Unit

Xtera's branching unit leverages many of the advanced mechanical features of the repeater. The current release supports fibre routing and fixed OADM. The branching unit power switching is controlled via the supervisory, which has the following advantages:

- Simpler to configure than current-steering
- More stable; only changes state when a command is sent
- Can be locked for safety
- Can be powered up from a single leg
- Can isolate a leg for insulation testing

The branching unit has been designed to allow hot switching without damage. Maximum deployment depth, using standard Light Weight cable, is >5,000m.

### Terminal Equipment

Xtera's Nu-wave™ Optima platform provides a common, modular platform that can serve terrestrial, unrepeated and ultra-long span submarine applications. The Optima employs the latest technology, including QPSK, 8QAM and 16QAM transmission with coherent detection and soft-decision FEC (SD-FEC). The Optima offers high equipment density, low power consumption and a responsive, easy-to-use Management System that manages all Xtera products.

Key features are:

- Extended reach through Raman amplification
- Common, integrated set of plug-and-play modules
- Fully tuneable line units over the entire bandwidth
- High power Raman and ROPA for industry-leading spans without repeaters
- End-to-end unified network management system
- A range of simple and cost-effective protection schemes
- Repeater LME supervisory
- Data Communications facilities
- Reconfigurable Optical Add Drop Multiplexer (ROADM)

Xtera is the industry leader in unrepeated applications, experienced in both equipping existing links and complete build systems. Xtera uses combinations of forward and backwards Raman pumping and ROPAs for maximum unrepeated reach. The Nu-wave™ Optima has demonstrated 100Gbit/s transmission over a 627 km fibre span.

### Open System Gateway

Xtera has a number of products designed to support Open systems, facilitating separate supply of terminal, power feeding and wet plant equipment.

Our Open system family provides active supervisory of the submerged plant and allows monitoring of the PFE via the NMS. In the Open System Gateway (OSG) fibre pairs are independently controlled and isolated from each other.

Additionally, units may be fitted to allow the bandwidth of a fibre to be shared, effectively creating virtual fibre pairs with users completely isolated from each other. High reliability amplifiers control power levels and loading modules fill unused bandwidth, avoiding the problems that would occur if a terminal were to fail or be disconnected. The OSG is fully managed by the NMS.

### Network Management System

Xtera's NMS manages the wet-plant, Nu-wave™ Optima and PFE, automatically logging alarms, events and performance data and allowing an operator to monitor and control these units. Users login via a secure password system and their access is controlled by a profile set by the System Administrator. The system can limit users to access only certain equipment, or give the ability to monitor, but not control/change system parameters. The NMS is a Client-Server architecture, based on a LINUX/SUN server and PCs as clients. The NMS manages the equipment in several sites and supports multiple clients.



Xtera's Nu-wave™ Optima platform



## Partner Products & Services

Xtera sources best-in-class products and services, for example Power Feeding Equipment from Spellman, which has a long-established supply record. Cable comes from a range of established worldwide suppliers, predominantly Nexans. Marine services are performed by partners of Xtera with extensive experience of submarine cable survey and installation. Xtera has successfully worked previously with a range of partners, including IT Telecom, Global Marine Systems Limited (GMSL) and Orange Marine.



## Xtera Services & Support

### Training

Xtera offers comprehensive training courses that prepare the customer to operate and maintain their system. Training courses are adjusted to suit individual customer requirements.

### Aftersales Support

XteraCare™ and On-Call Premier are two support packages available for all the products that Xtera supplies for a project, including those products sourced from other suppliers. The types of services offered include:

- 24-hour access to technical assistance
- Second-line support from Xtera engineers
- Repair or replacement
- Software upgrades
- Value-added professional services

## Corporate Information

Xtera's staff and R&D facilities, are mainly located in centres of excellence on the outskirts of London (UK) and in Dallas (US). Sales support offices are located around the world, in North America, Latin America, Europe and the Middle East.

For more information, email us at [info@xtera.com](mailto:info@xtera.com) or visit our website: [www.xtera.com](http://www.xtera.com).

### UK Office

Bates House  
Church Road  
Harold Wood  
Romford  
Essex RM3 0SD  
UK

Tel: +44 1708 335400

### US Office

500 West Bethany Drive  
Allen Texas 75013  
USA  
Tel: +1 972 649 5000

For support services, email us at [customer\\_support@xtera.com](mailto:customer_support@xtera.com)

